



Test Report issued under the responsibility of:

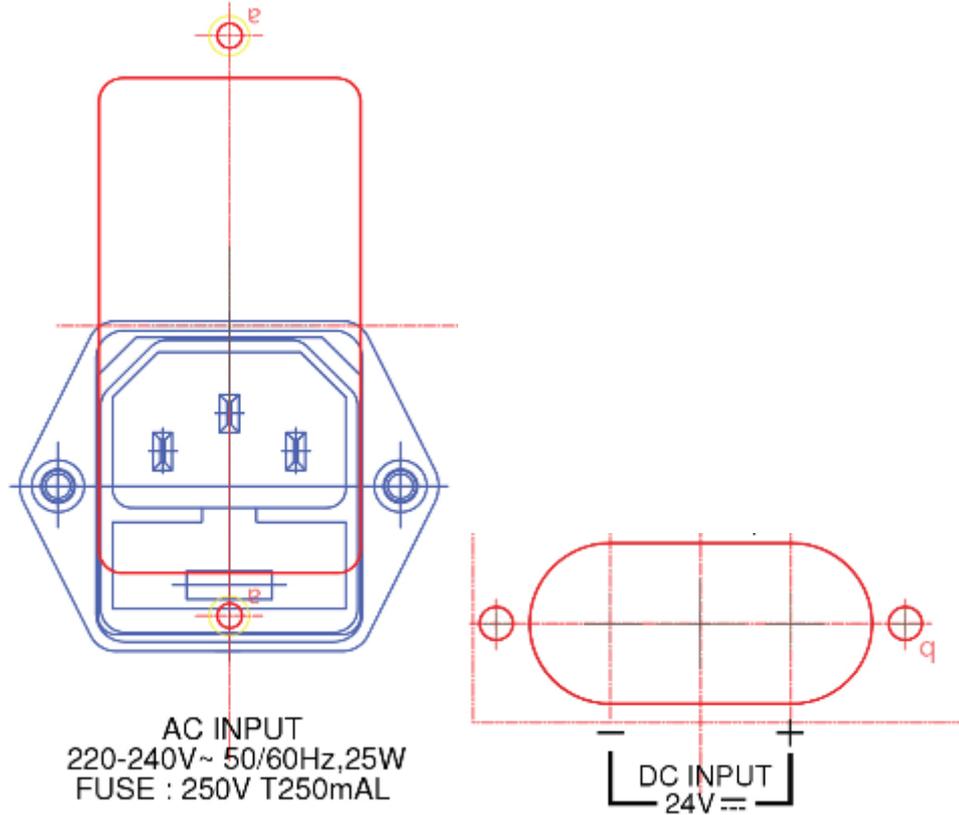


|  |   |
|--|---|
| <b>TEST REPORT</b><br><b>IEC 60065</b><br><b>Audio, video and similar electronic apparatus – Safety requirements</b>   |   |
| <b>Report Number</b> .....   | <b>50209939 001</b>   |
| <b>Date of issue</b> .....   | <b>2018-12-07</b>   |
| <b>Total number of pages</b> .....   | <b>31 pages</b>   |
| <b>Applicant's name</b> .....  | <b>IMP Corporation</b>  |
| <b>Address</b> .....   | <b>(Deokjeong-dong),67, Hwahap-ro 1402beon-gil,<br/>Yangju-si, Gyeonggi-do 11451 Rep. of Korea.</b> |
| <b>Test specification:</b>   |   |
| <b>Standard</b> .....  | <b>IEC 60065:2014</b>   |
| <b>Test procedure</b> .....  | <b>CB Scheme</b>  |
| <b>Non-standard test method</b> .....  | <b>N/A</b>  |
| <b>Test Report Form No.</b> .....  | <b>IEC60065M</b>  |
| <b>Test Report Form(s) Originator</b> ....   | <b>Intertek Semko AB</b>  |
| <b>Master TRF</b> .....  | <b>Dated 2016-10</b>  |
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|   |   |   |
|---|---|---|
| <b>Test item description</b> ..... :  | Mic Line Amplifier  |   |
| <b>Trade Mark</b> ..... :   |    |   |
| <b>Manufacturer</b> .....   | Same as applicant   |   |
| <b>Model/Type reference</b> .....   | IM-LM-6414, IM-LM-6414-EP (see 6 page)  |   |
| <b>Ratings</b> .....  | 220-240 V~, 50/60 Hz, 25 W, Class I<br>24 V  (for emergency) |   |
| <b>Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):</b> |   |   |
| <input checked="" type="checkbox"/>   | <b>CB Testing Laboratory:</b>   | LTA Co.,Ltd   |
| <b>Testing location/ address</b> ..... :  | 4, Songju-ro 236beon-gil, Yangji-myeon, Cheoin-gu, Yongin-si, Gyeonggi-do, 17159 Korea, Republic of   |   |
| <b>Tested by (name, function, signature)</b> ..... :  | JunSeok Yoon  |  |
| <b>Approved by (name, function, signature)</b> ... :  | SeokGoo Kang  |  |
| <input type="checkbox"/>  | <b>Testing procedure: CTF Stage 1:</b>  |   |
| <b>Testing location/ address</b> ..... :  |   |   |
| <b>Tested by (name, function, signature)</b> ..... :  |   |   |
| <b>Approved by (name, function, signature)</b> ... :  |   |   |
| <input type="checkbox"/>  | <b>Testing procedure: CTF Stage 2:</b>  |   |
| <b>Testing location/ address</b> ..... :  |   |   |
| <b>Tested by (name + signature)</b> .....   |   |   |
| <b>Witnessed by (name, function, signature) .:</b>  |   |   |
| <b>Approved by (name, function, signature)</b> ... :  |   |   |
| <input type="checkbox"/>  | <b>Testing procedure: CTF Stage 3:</b>  |   |
| <input type="checkbox"/>  | <b>Testing procedure: CTF Stage 4:</b>  |   |
| <b>Testing location/ address</b> ..... :  |   |   |
| <b>Tested by (name, function, signature)</b> ..... :  |   |   |
| <b>Witnessed by (name, function, signature) .:</b>  |   |   |
| <b>Approved by (name, function, signature)</b> ... :  |   |   |
| <b>Supervised by (name, function, signature) :</b>  |   |   |

|   |   |
|---|---|
| <p><b>List of Attachments (including a total number of pages in each attachment):</b></p> <p><b>Attachment included in this Test Report:</b><br/>Attachment 1: 1 page (Korea differences)</p> <p><b>Attachment separated from this Test Report:</b><br/>Photograph 5 pages</p>  |   |
| <p><b>Summary of testing:</b></p>   |   |
| <p><b>Tests performed (name of test and test clause):</b></p> <p>Marking durability and legibility (clause 5)<br/>                 Input test (clause 5.1)<br/>                 Temperature rise measurements (clause 7.1)<br/>                 Touch current measurement (clause 9.1)<br/>                 Accessibility (clause 9.1)<br/>                 Withdrawal of mains plug; Cap. discharge test (clause 9.1.6)<br/>                 Humidity treatment / Insulation resistance and dielectric strength (clause 10.3)<br/>                 Fault condition tests (clause 11)<br/>                 Bump test where mass &gt; 7 kg (clause 12.1.2)<br/>                 Vibration test (clause 12.1.3)<br/>                 Impact test (clause 12.1.4)<br/>                 Fixing of actuating elements (clause 12.2)<br/>                 Determination of operating voltage (clause 13.2)<br/>                 Clearances and creepage distances measurements (clause 13.3, 13.4)<br/>                 Inductors and windings (clause 14.4)<br/>                 Provisions for protective earthing (clause 15.2)<br/>                 Electrical connections and mechanical fixings (clause 17)</p> | <p><b>Testing location:</b></p> <p>LTA Co.,Ltd<br/>                 4, Songju-ro 236beon-gil, Yangji-myeon, Cheoin-gu, Yongin-si, Gyeonggi-do, 17159 Korea, Republic of</p> |
| <p><b>Summary of compliance with National Differences:<br/>(List of countries addressed): KR</b></p> <p>KR = Korea.</p> <p><input checked="" type="checkbox"/> <b>The product fulfils the requirements of IEC 60065:2014</b></p>  |   |





**CAUTION:** TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

**CAUTION:** TO REDUCE THE RISK OF FIRE REPLACE ONLY WITH SAME TYPE FUSE. UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE.

**ATTENTION:** RISQUE DE CHOC ELECTRIQUE NE PAS OUVRIR.

**WARNING:** TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

**interM** MODEL NO. IM-LM-6414  
PRO & PPS MIC LINE AMPLIFIER



Trade mark



|   |  |
|---|--|
| <b>Test item particulars</b> .....: Mic Line Amplifier  |  |
| <b>Classification of installation and use</b> .....: Rack mounted apparatus   |  |
| <b>Supply Connection</b> .....: AC mains operated (Detachable power cord)   |  |
| .....: Class I apparatus  |  |
| <b>Possible test case verdicts:</b>   |  |
| - test case does not apply to the test object..... : N/A  |  |
| - test object does meet the requirement..... : P (Pass)   |  |
| - test object does not meet the requirement..... : F (Fail)   |  |
| <b>Testing</b> ..... :  |  |
| <b>Date of receipt of test item</b> ..... : 2018-03-14  |  |
| <b>Date (s) of performance of tests</b> ..... : 2018-12-07 to 2018-12-07  |  |
|   |  |
| <b>General remarks:</b>   |  |
| "(See Enclosure #)" refers to additional information appended to the report.<br>"(See appended table)" refers to a table appended to the report.  |  |
| Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.   |  |
| <b>Manufacturer's Declaration per sub-clause 4.2.5 of IEC 60065:</b>  |  |
| The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided ..... :   | <input type="checkbox"/> <b>Yes</b><br><input checked="" type="checkbox"/> <b>Not applicable</b> |
| <b>When differences exist; they shall be identified in the General product information section.</b>   |  |
| <b>Name and address of factory (ies)</b> ..... : IMP Corporation<br>(Deokjeong-dong),67, Hwahap-ro 1402beon-gil,<br>Yangju-si, Gyeonggi-do 11451 Rep. of Korea.   |  |
| <b>General product information:</b>   |  |
| -. Overall size of equipment: 482 mm (W) x 177 mm (H) x 280 mm (D)<br>-. Mass of equipment: 7.91 kg<br>-. Rear 24 V d.c input is emergency power.<br>-. Model "IM-LM-6414" is basic model, which was tested.<br>-. The IM-LM-6414-EP model has the same electrically and mechanical structure as the IM-LM-6414 model and the addition of the brand name and model name according to buyer. |  |

| IEC 60065  |   |   |          |
|------------|---|---|----------|
| Clause     | Requirement + Test  | Result - Remark   | Verdict  |
| <b>3</b>   | <b>GENERAL REQUIREMENTS</b>   |   | P        |
|            | Safety class of the apparatus .....   | Class I   | P        |
| <b>4</b>   | <b>GENERAL TEST CONDITIONS</b>  |   | P        |
| 4.1.4      | Ventilation instructions require the use of the test box  | Yes   | P        |
| <b>5</b>   | <b>MARKING AND INSTRUCTIONS</b>   |   | P        |
| <b>5.1</b> | <b>General requirements</b>   |   | <b>P</b> |
|            | Comprehensible and easily discernible   | Compliance checked  | P        |
|            | Permanent durability against water and petroleum spirit   | Tested with water and n-hexane  | P        |
| <b>5.2</b> | <b>Identification and supply rating</b>   |   | <b>P</b> |
|            | a) Identification, maker .....  |           | P        |
|            | b) Model number or type reference .....   | IM-LM-6414, IM-LM-6414-EP   | P        |
|            | c) Class II symbol or Class II with functional earth symbol if applicable .....   | Class I apparatus   | N/A      |
|            | d) Nature of supply .....   | ~ (IEC 60417-5032) used   | P        |
|            | e) Rated supply voltage .....   | 220-240 V~  | P        |
|            | f) Mains frequency if safety dependant .....  | 50/60 Hz  | P        |
|            | g) Rated current or power consumption for apparatus supplied by supply apparatus for general use, on apparatus or in instruction manual ..... | No supplied by supply apparatus   | N/A      |
|            | Measured current or power consumption .....   |   | N/A      |
|            | Deviation % (max 10%) .....   |   | N/A      |
|            | h) Rated current or power consumption for apparatus intended for connection to an a.c. mains supply :   | 25 W  | P        |
|            | Measured current or power consumption .....   | 24.03 W   | P        |
|            | Measured current or power consumption for Television set .....  | No Television set   | N/A      |
|            | Deviation % (max 10%) .....   | -3.88 %   | P        |
|            | Symbols explained in the user manual  |   | N/A      |
| <b>5.3</b> | <b>Terminals</b>  |   | <b>P</b> |
|            | a) Earth terminal   | Marked with standard earth symbol (60417-1-IEC-5019) near the protective earthing terminal. | P        |
|            | b) Hazardous live terminals   | No hazardous live terminals   | N/A      |

| IEC 60065  |  |                                     |            |
|------------|--|-------------------------------------|------------|
| Clause     | Requirement + Test   | Result - Remark                     | Verdict    |
|            | c) Markings on supply output terminals   | No supply output terminals          | N/A        |
| <b>5.4</b> | <b>Caution marking</b>   |                                     | <b>P</b>   |
|            | a) Use of triangle with exclamation mark   | (see marking plate)                 | P          |
|            | b) Marking on loudspeaker grille, IEC 60417-5036   | No loudspeaker grille               | N/A        |
|            | c) User-replaceable coin / button cell battery marking   | No coin / button cell battery       | N/A        |
| <b>5.5</b> | <b>Instructions</b>  |                                     | <b>P</b>   |
| 5.5.1      | Safety relevant information  |                                     | P          |
| 5.5.2      | a) Mains powered equipment not exposed to dripping or splashing. Warning concerning objects filled with liquid, etc. | In user instruction                 | P          |
|            | b) Hazardous live terminals, instructions for wiring   | No hazardous live terminals         | N/A        |
|            | c) Instructions for replacing lithium battery  | No lithium battery                  | N/A        |
|            | d) Class I earth connection warning  | In user instruction                 | P          |
|            | e) Instructions for multimedia system connection   | In user instruction                 | P          |
|            | f) Special stability warning for attachment of the apparatus to the floor/wall                                       | Rack mounted apparatus              | N/A        |
|            | g) Warning: battery exposure to heat   | No battery                          | N/A        |
|            | h) Warning: protective film on CRT face  | No CRT face                         | N/A        |
|            | i) Warning: Non-floor standing TV >7kg   | Not TV                              | N/A        |
|            | j) Warning: User replaceable coin / button cell battery  | No coin / button cell battery       | N/A        |
| 5.5.3      | a-b) Disconnect device: plug/coupler or all-pole mains switch location, accessibility and markings                   | Appliance coupler                   | P          |
|            | c) Instructions for permanently connected equipment  | Not permanently connected equipment | N/A        |
|            | Marking, signal lamps or similar for completely disconnection from the mains   | No signal lamps or similar          | N/A        |
| <b>6</b>   | <b>HAZARDOUS RADIATION</b>   |                                     | <b>N/A</b> |
| 6.1        | Ionizing radiation < 36 pA/kg (0,5 mR/h)   | No radiation hazard.                | N/A        |
|            | Ionizing radiation under fault condition   |                                     | N/A        |
| 6.2        | Laser radiation, emission limits to IEC 60825-1:2007<br>..... :  |                                     | N/A        |
|            | Emission limits under fault conditions ..... :   |                                     | N/A        |
| 6.3        | Light emitting diodes (LEDs) according to IEC 62471  | Only indicate function.             | N/A        |
| <b>7</b>   | <b>HEATING UNDER NORMAL OPERATING CONDITIONS</b>   |                                     | <b>P</b>   |
| <b>7.1</b> | <b>General</b>   |                                     | <b>P</b>   |

| IEC 60065 |   |                          |         |
|-----------|---|--------------------------|---------|
| Clause    | Requirement + Test  | Result - Remark          | Verdict |
| 7.1.1     | Temperature rises not exceeding specified values; fuse links and other protective devices defeated  | (see appended table 7.1) | P       |
| 7.1.2     | Temperature rise of accessible parts  | (see appended table 7.1) | P       |
| 7.1.3     | Temperature rise of parts providing electrical insulation   | (see appended table 7.1) | P       |
| 7.1.4     | Temperature rise of parts acting as a support or as a mechanical barrier  | (see appended table 7.1) | P       |
| 7.1.5     | Temperature rise of windings  | (see appended table 7.1) | P       |
| 7.1.6     | Parts not subject to a limit under 7.1.1 to 7.1.4   | (see appended table 7.1) | P       |
| 7.2       | Softening temperature of insulating material supporting parts conductively connected to the mains carrying a current > 0,2 A at least 150°C | Not exceed 0.2 A         | N/A     |

|            |   |  |            |
|------------|---|--|------------|
| <b>8</b>   | <b>CONSTRUCTIONAL REQUIREMENTS WITH REGARD TO THE PROTECTION AGAINST ELECTRIC SHOCK</b>   |  | <b>P</b>   |
| 8.1        | Conductive parts covered by lacquer, paper, untreated textile oxide films and beads etc. considered to be bare                                  | Covered only by lacquer are considered conductive parts.                   | P          |
| 8.2        | No shock hazard when changing voltage setting device, fuse-links or handling drawers etc.   | No such parts  | N/A        |
| 8.3        | Insulation of hazardous live parts not provided by hygroscopic material   | No hygroscopic material  | N/A        |
| 8.4        | No risk of electric shock from accessible parts or from parts rendered accessible following the removal of a cover which can be removed by hand | No risk of electric shock  | N/A        |
| <b>8.5</b> | <b>Class I apparatus</b>  |  | <b>P</b>   |
|            | Basic insulation between hazardous live parts and earthed accessible parts  | Basic insulation complies with requirements specified in clause 10 and 13. | P          |
|            | Resistors bridging basic insulation complying with 14.2 a)  | Approval resistance used   | N/A        |
|            | Capacitors bridging basic insulation complying with 14.3.2 a)   | Approval Capacitor used  | N/A        |
|            | Protective earthing terminal  | Provided with a protective earthing terminal.                              | P          |
| <b>8.6</b> | <b>Class II apparatus</b>   |  | <b>N/A</b> |
|            | a) Basic and supplementary insulation between hazardous live parts and accessible parts   | Class I apparatus  | N/A        |
|            | b) Reinforced insulation between hazardous live parts and accessible parts  |  | N/A        |
| <b>8.7</b> | <b>Components bridging insulation</b>   |  | <b>P</b>   |
|            | Basic insulation bridged by components complying with 14.4.5.3  | Basic insulation complies with requirements specified in clause 10 and 13. | P          |

| IEC 60065   |  |  |          |
|-------------|--|--|----------|
| Clause      | Requirement + Test   | Result - Remark  | Verdict  |
|             | Components bridging basic, supplementary, double or reinforced insulation complying with 14.2 a) or 14.4   | The apparatus has isolated transformer complied with clause 14.4 | P        |
|             | Basic and supplementary insulation each being bridged by a capacitor or RC-unit complying with 14.3.2 a)   | (see appended table 14)  | P        |
|             | Double or reinforced insulation being bridged with 2 capacitors or RC-units in series complying with 14.3.2 a)   | No such parts  | N/A      |
|             | Double or reinforced insulation being bridged with a single capacitor or RC-unit complying with 14.3.2 b)  | No such parts  | N/A      |
| <b>8.8</b>  | <b>Insulation thickness and thin sheet materials</b>   |  | <b>P</b> |
|             | Basic or supplementary insulation > 0,4 mm (mm) :  | AC connector : > 0.4 mm  | P        |
|             | Reinforced insulation > 0,4 mm (mm) .....  | Transformer bobbin :<br>Min. 1.0 mm                              | P        |
|             | Thin sheet material used inside the equipment  | Insulation tape for transformer                                  | P        |
|             | Basic or supplementary insulation, at least two layers, each meeting 10.4  | No such parts  | N/A      |
|             | Basic or supplementary insulation, three layers any two of which meet 10.4   | No such parts  | N/A      |
|             | Reinforced insulation, two layers each of which meet 10.4  | No such parts  | N/A      |
|             | Reinforced insulation, three layers any two which meet 10.4  | 2 layer : 3 000 V peak<br>Insulation tape for transformer        | P        |
| 8.9         | Adequate insulation between internal hazardous live conductors and accessible parts, or between internal hazardous live parts and conductors connected to accessible parts | PVC wire<br>(see appended table 14)                              | P        |
| 8.10        | Double insulation between accessible parts and conductors connected to the mains   | Class I apparatus  | N/A      |
|             | Double insulation between conductors connected to accessible parts and parts connected to the mains  |  | N/A      |
| <b>8.11</b> | <b>Detaching of wires</b>  |  | <b>P</b> |
|             | No undue reduction of creepage or clearance distances if wires become detached   | No wires become detached   | P        |
|             | Vibration test carried out .....   | Yes  | P        |
| 8.12        | Adequate fastening of windows, lenses, lamp covers etc. (pull test 20 N for 10 s)  | No such parts  | N/A      |
| 8.13        | Adequate fastening of covers (push/pull test 50 N for 10 s)  | No cover   | N/A      |
| 8.14        | No risk of damage to the insulation of internal wiring due to hot parts or sharp edges   | No damage to the insulation.                                     | N/A      |

| IEC 60065      |  |   |          |
|----------------|--|---|----------|
| Clause         | Requirement + Test   | Result - Remark   | Verdict  |
| 8.15           | Only special supply equipment can be used  | Not used special supply.  | N/A      |
| 8.16           | Insulated winding wire without additional interleaved insulation                             |   | N/A      |
| 8.17           | Endurance test as required by 8.16   |   | N/A      |
| <b>8.18</b>    | <b>Disconnection from the mains</b>  |   | <b>P</b> |
|                | Disconnect device  | Appliance coupler   | P        |
|                | All-pole switch or circuit breaker with >3mm contact separation                              | No all-pole switch or circuit breaker   | N/A      |
|                | Mains switch ON indication   | No switch for disconnect device   | N/A      |
| 8.19           | Switch not fitted in the mains cord  |   | N/A      |
| 8.20           | Bridging components comply with clause 14  | (see appended table 14)   | P        |
| 8.21           | Non-separable thin sheet material  | No such parts   | N/A      |
| <b>9</b>       | <b>ELECTRIC SHOCK HAZARD UNDER NORMAL OPERATING CONDITION</b>                                |   | <b>P</b> |
| <b>9.1</b>     | <b>Testing on the outside</b>  |   | <b>P</b> |
| <b>9.1.1</b>   | <b>General</b>   |   | <b>P</b> |
| <b>9.1.1.1</b> | <b>Requirements</b>  |   | <b>P</b> |
|                | Accessible parts shall not be hazardous live   | No hazardous live terminals   | P        |
|                | Inaccessible terminals are not accessible or comply with relevant requirements               | No hazardous live terminals   | P        |
|                | For voltages >1000 V ac or >1500 V dc complies with clause 13.3.1 for basic insulation ..... | Not exceed  | N/A      |
| <b>9.1.1.2</b> | <b>Determination of hazardous live parts</b>   |   | <b>P</b> |
|                | a) Open circuit voltages   |   | P        |
|                | b) Touch current measured from terminal devices using the network in annex D .....           | Voltage U1: 820 mV<br>Voltage U2: 29.8 mV<br>Alternatively – Measured Current : 0.06 mA | P        |
|                | c) Discharge not exceeding 45 µC   |   | N/A      |
|                | d) Energy of discharge not exceeding 350 mJ  |   | N/A      |
| 9.1.1.3        | Test with test finger and test probe   | No hazardous live   | P        |
| 9.1.2          | No hazardous live shafts of knobs, handles or levers   | No hazardous live   | P        |
| 9.1.3          | Ventilation holes and other holes tested by means of 4 mm x 100 mm test pin                  | No hazardous live   | P        |
| 9.1.4          | Terminal devices tested with 1 mm x 20 mm test pin (10 N); test probe D of IEC 61032         | No hazardous live terminals   | P        |
|                | Terminal devices tested with 1 mm x 100 mm straight wire (1 N); test probe D of IEC 61032    | No hazardous live terminals   | P        |

| IEC 60065     |  |  |          |
|---------------|--|--|----------|
| Clause        | Requirement + Test   | Result - Remark                                | Verdict  |
| 9.1.5         | Pre-set controls tested with 2.5 mm x 100 mm test pin (10 N); test probe C of IEC 61032                                | No pre-set controls                            | N/A      |
| <b>9.1.6</b>  | <b>Withdrawal of the mains plug</b>  |  | <b>P</b> |
|               | No shock hazard due to stored charge after 2 s ... :   | 0 V  | P        |
|               | Bleeder resistor(s) comply with 14.2 or no shock hazard when open circuited  | Complied                                       | P        |
|               | If C is not greater than 0,1 µF no test needed   | > 0.1 µF                                       | N/A      |
| <b>9.1.7</b>  | <b>Resistance to external force</b>  |  | <b>P</b> |
|               | a) Test probe 11 of IEC 61032 for 10 s (50 N)  | No hazard                                      | P        |
|               | b) Test hook of fig. 4 for 10 s (20 N)   | No hazard                                      | P        |
|               | c) 30 mm diameter test tool for 5 s (100 or 250 N)   | 100 N, No hazard                               | P        |
| 9.2           | No hazard after removing a cover by hand   | No cover                                       | N/A      |
| <b>10</b>     | <b>INSULATION REQUIREMENTS</b>   |  | <b>P</b> |
| 10.2          | Insulation resistance (MΩ) at least 2 MΩ min. after surge test for basic and 4 MΩ min. for reinforced insulation ..... | Class I apparatus                              | N/A      |
| 10.3          | Humidity treatment 48 h or 120 h .....   | 48 h, 95 % R.H., 30 °C                         | P        |
| <b>10.4</b>   | <b>Insulation resistance and dielectric strength</b>   |  | <b>P</b> |
|               | Between parts of different polarity directly connected to the mains  | (see appended table 10.4)                      | P        |
|               | Between parts separated by BASIC or SUPPLEMENTARY insulation   | (see appended table 10.4)                      | P        |
|               | Between parts separated by REINFORCED insulation   | (see appended table 10.4)                      | P        |
| <b>11</b>     | <b>FAULT CONDITIONS</b>  |  | <b>P</b> |
| 11.1          | No shock hazard under fault condition  | No electric shock hazard under fault condition | P        |
| <b>11.2</b>   | <b>Heating</b>   |  | <b>P</b> |
| <b>11.2.1</b> | <b>Requirements</b>  |  | <b>P</b> |
|               | No danger of fire to the surroundings  | No fire  | P        |
|               | Safety not impaired by abnormal heat   |  | P        |
|               | Flames extinguish within 10 seconds  | No flame                                       | P        |
|               | No hazard from softening solder  | No hazard                                      | P        |
|               | Soldered terminations not used as protective mechanism   | Not used                                       | P        |
| 11.2.2        | Measurement of temperature rises   | (see appended table 11.2)                      | P        |
| 11.2.3        | Temperature rise of accessible parts   | (see appended table 11.2)                      | P        |

| IEC 60065     |  |                           |          |
|---------------|--|---------------------------|----------|
| Clause        | Requirement + Test   | Result - Remark           | Verdict  |
| 11.2.4        | Temperature rise of parts, other than windings and printed boards, providing electrical insulation   | (see appended table 11.2) | P        |
| 11.2.5        | Temperature rise of parts acting as a support or mechanical barrier  | (see appended table 11.2) | P        |
| 11.2.6        | Temperature rise of windings   | (see appended table 11.2) | P        |
| <b>11.2.7</b> | <b>Printed boards</b>  |                           | <b>P</b> |
|               | Temperature rise does not exceed the limits of table 3 or exceed the limits of table 3 by max. 100 K for max. 5 min  | (see appended table 11.2) | P        |
|               | a) Temperature rise of V-0 or VTM-0 printed circuit boards exceeding the limits of table 3 by not more than 100 K for an area not greater than 2 cm <sup>2</sup>             |                           | N/A      |
|               | b) Temperature rise of V-0 or VTM-0 printed circuit boards exceeding the limits of table 3 up to 300 K for an area not greater than 2 cm <sup>2</sup> for a maximum of 5 min |                           | N/A      |
|               | Meets all the special conditions if conductors on printed circuit boards are interrupted   |                           | N/A      |
|               | Class I protective earthing maintained   | Earthing maintained       | P        |
| 11.2.8        | Temperature rise of parts not subject to the limits of 11.2.2 to 11.2.7 shall not exceed the limits in table 3, item e), "Fault conditions".                                 | (see appended table 11.2) | P        |

|             |  |  |            |
|-------------|--|--|------------|
| <b>12</b>   | <b>MECHANICAL STRENGTH</b>                         |  | <b>P</b>   |
| <b>12.1</b> | <b>Complete apparatus</b>                          |  | <b>P</b>   |
| 12.1.1      | The apparatus have adequate mechanical strength    |  | P          |
| 12.1.2      | Bump test where mass >7 kg                         | 7.91 kg, No damaged  | P          |
| 12.1.3      | Vibration test                                     | No damaged   | P          |
| 12.1.4      | Impact hammer test                                 | 0.5 J  | P          |
|             | Steel ball test                                    | 50 mm, 500 g steel ball<br>41 cm(2 J), No breakdown.       | P          |
| 12.1.5      | Drop test for portable apparatus where mass ≤ 7 kg | Over 7 kg  | N/A        |
| 12.1.6      | Thermoplastic enclosures stress relief test        | No enclosures of moulded or formed thermoplastic materials | N/A        |
| 12.2        | Fixing of knobs, push buttons, keys and levers     | No hazard  | P          |
| 12.3        | Remote controls with hazardous live parts          | No remote control  | N/A        |
| 12.4        | Drawers (pull test 50 N, 10 s)                     | No drawer  | N/A        |
| 12.5        | Antenna coaxial sockets providing isolation        | No antenna coaxial sockets                                 | N/A        |
| <b>12.6</b> | <b>Telescoping or rod antennas</b>                 |  | <b>N/A</b> |
| 12.6.1      | 6,0mm diameter end                                 | No telescoping or rod antennas                             | N/A        |

| IEC 60065     |  |                               |            |
|---------------|--|-------------------------------|------------|
| Clause        | Requirement + Test   | Result - Remark               | Verdict    |
|               | Prevented from falling into the apparatus  |                               | N/A        |
| 12.6.2        | Physical securement, removal prevented   |                               | N/A        |
| <b>12.7</b>   | <b>Apparatus containing coin / button cell batteries</b>   |                               | <b>N/A</b> |
| 12.7.2        | Reduced possibility for children to remove battery   | No coin / button cell battery | N/A        |
| <b>12.7.3</b> | <b>Tests</b>   |                               | N/A        |
| 12.7.3.2      | Stress relief test   |                               | N/A        |
| 12.7.3.3      | Battery replacement test   |                               | N/A        |
| 12.7.3.4      | Drop test  |                               | N/A        |
| 12.7.3.5      | Impact test  |                               | N/A        |
| 12.7.3.6      | Crush test   |                               | N/A        |
| 12.7.4        | Battery not accessible; or not removable   |                               | N/A        |
| <b>13</b>     | <b>CLEARANCES AND CREEPAGE DISTANCES</b>   |                               | <b>P</b>   |
| 13.1          | Clearances in accordance with 13.3   | Considered.                   | P          |
|               | Creepage distances in accordance with 13.4   | Considered.                   | P          |
| 13.2          | Determination of working voltage   | (see appended table 13)       | P          |
| <b>13.3</b>   | <b>Clearances</b>  |                               | <b>P</b>   |
| 13.3.1        | Comply with 13.3 or Annex J  | (see appended table 13)       | P          |
| 13.3.2        | Circuits conductively connected to the mains comply with table 8 and, where applicable, table 9..... :                                   | (see appended table 13)       | P          |
| 13.3.3        | Circuits not conductively connected to the mains comply with table 10  | No such parts                 | N/A        |
| 13.3.4        | Measurement of transient voltages  |                               | N/A        |
| 13.4          | Creepage distances not less than appropriate table 11 minimum values   | (see appended table 13)       | P          |
| <b>13.5</b>   | <b>Printed boards</b>  |                               | <b>N/A</b> |
| 13.5.1        | Conductors complying with pull-of and peel strength requirements, one of which may be conductively connected to the mains, as in fig. 10 |                               | N/A        |
| 13.5.2        | Type B coated printed circuit boards complying with IEC 60664-3 (basic insulation only)  |                               | N/A        |
| 13.6          | Conductive parts along uncemented joints clearances and creepage distances comply with 13.3 and 13.4                                     |                               | N/A        |
|               | Conductive parts along reliably cemented joints comply with 8.8  |                               | N/A        |
|               | Temperature cycle test and dielectric strength test  |                               | N/A        |
|               | 500V test for transformers, magnetic coupler and similar devices, if insulation is relied upon for safety                                |                               | N/A        |

| IEC 60065     |   |  |          |
|---------------|---|--|----------|
| Clause        | Requirement + Test  | Result - Remark                          | Verdict  |
| 13.7          | Enclosed, enveloped or hermetically sealed parts not conductively connected to the mains, clearances and creepage distances as in table 12  |  | N/A      |
| 13.8          | Parts filled with insulating compound, meeting the requirements of 8.8  | No parts filled with insulating compound | N/A      |
| <b>14</b>     | <b>COMPONENTS</b>   |  | <b>P</b> |
| 14.1          | Flammability according to IEC 60695-11-10 or annex G, or 20.2.5   | According to IEC 60695-11-10             | P        |
| <b>14.2</b>   | <b>Resistors</b>  |  | <b>P</b> |
|               | Resistors separately approved .....   | Yes (see appended table 14)              | P        |
|               | a) Resistors between hazardous live parts and accessible metal parts  |  | N/A      |
|               | b) Resistors, other than between hazardous live parts and accessible parts  |  | N/A      |
| <b>14.3</b>   | <b>Capacitors and RC units</b>  |  | <b>P</b> |
|               | Capacitors separately approved :  | Yes (see appended table 14)              | P        |
| 14.3.1        | Damp heat test duration 21 days   |  | N/A      |
| 14.3.2        | Y capacitors tested to IEC 60384-14:2005 .....  | (see appended table 14)                  | P        |
| 14.3.3        | X capacitors tested to IEC 60384-14:2005 .....  | No such parts                            | N/A      |
| 14.3.4        | Capacitors operating at mains frequency but not connected to the mains: tests for X2 .....  | No such parts                            | N/A      |
| 14.3.6        | Capacitors with volume exceeding 1750 mm <sup>3</sup> , where short-circuit current exceeds 0,2 A: compliance with IEC 60384-1, 4.38 category B or better .....                           | Metal-cased capacitors                   | N/A      |
|               | Capacitors with volume exceeding 1750 mm <sup>3</sup> , mounted closer to a potential ignition source than table 13 permits: compliance with IEC 60384-1, 4.38 category B or better ..... |  | N/A      |
| <b>14.4</b>   | <b>Inductors and windings</b>   |  | <b>P</b> |
| 14.4.1        | Comply with IEC 61558-1, IEC 61558-2 (as relevant) and clause 20.2.5  |  | N/A      |
|               | Transformers and inductors separately approved :  | No                                       | P        |
| 14.4.2        | Transformers and inductors marked with manufacturer's name and type .....   | (see appended table 14)                  | P        |
| 14.4.3        | General   |  | P        |
|               | Insulation material complies with clause 20.2.5   | Considered                               | P        |
| <b>14.4.4</b> | <b>Constructional requirements</b>  |  | <b>P</b> |
| 14.4.4.1      | Clearances and creepage distances comply with clause 13   | Complied with clause 13                  | P        |
| 14.4.4.2      | Transformers meet the constructional requirements   | Requirements                             | P        |

| IEC 60065     |   |   |            |
|---------------|---|---|------------|
| Clause        | Requirement + Test  | Result - Remark                                   | Verdict    |
| <b>14.4.5</b> | <b>Separation between windings</b>  |   | <b>P</b>   |
| 14.4.5.1      | Class II transformers have adequate separation between hazardous live parts and accessible parts (double or reinforced insulation) .....  | Reinforced insulation                             | P          |
|               | Coil formers and partition walls > 0,4 mm   | Bobbin : 1.0 mm                                   | P          |
| 14.4.5.2      | Class I transformers, with basic insulation and protective screening only if all 7 conditions are met   | No class I transformer                            | N/A        |
| 14.4.5.3      | Separating transformers with at least basic insulation  | Reinforced insulation                             | N/A        |
| <b>14.4.6</b> | <b>Insulation between hazardous live parts and accessible parts</b>   |   | <b>P</b>   |
| 14.4.6.1      | Class II transformers have adequate insulation between hazardous live parts and accessible parts (double or reinforced insulation)  | Reinforced insulation                             | P          |
|               | Coil formers and partition walls > 0,4 mm   | Bobbin : 1.0 mm                                   | P          |
| 14.4.6.2      | Class I transformers have adequate insulation between hazardous live parts and accessible conductive parts or those conductive parts or protective screens connected to a protective earth terminal | No class I transformer                            | N/A        |
|               | Winding wires connected to protective earth have adequate current-carrying capacity   |   | N/A        |
| <b>14.5</b>   | <b>High voltage components and assemblies (U &gt; 4kV peak)</b>   |   | <b>N/A</b> |
| 14.5.1        | Component meets category V-1 of IEC 60695-11-10   | No high voltage components                        | N/A        |
| 14.5.2        | High voltage transformers and multipliers   |   | N/A        |
| 14.5.3        | High voltage assemblies and other parts   |   | N/A        |
| <b>14.6</b>   | <b>Protective devices</b>   |   | <b>P</b>   |
| 14.6.1        | Protective devices used within their ratings  | DC fuse : 250V, 1 A,<br>Main fuse : 250V, T250mAL | P          |
|               | External clearances and creepage distances meet requirement of clause 13 for the voltage across the device when opened  |   | P          |
| <b>14.6.2</b> | <b>Thermal releases</b>   |   | <b>P</b>   |
| 14.6.2.1      | Comply with 14.6.2.2, 14.6.2.3 or 14.6.2.4  |   | P          |
| 14.6.2.2      | a) Thermal cut-outs separately approved   | (see appended table 14)                           | P          |
|               | b) Thermal cut-outs tested as part of the submission  |   | N/A        |
| 14.6.2.3      | a) Thermal links separately approved  |   | N/A        |
|               | b) Thermal links tested as part of the submission   |   | N/A        |
| 14.6.2.4      | Thermal devices re-settable by soldering  |   | N/A        |
| <b>14.6.3</b> | <b>Fuses and fuse holders</b>   |   | <b>P</b>   |

| IEC 60065        |   |  |            |
|------------------|---|--|------------|
| Clause           | Requirement + Test  | Result - Remark  | Verdict    |
| 14.6.3.1         | Fuse-links in the mains circuit according to IEC 60127  | (see appended table 14)  | P          |
| 14.6.3.2         | Correct marking of fuse-links adjacent to holder ... :  | Applied close to the fuses on PCB: T1AL 250V<br>Inlet fuse : 250V T250mAL              | P          |
| 14.6.3.3         | Not possible to connect fuses in parallel   |  | N/A        |
| 14.6.3.4         | Not possible to touch hazardous live parts when replacing fuse-links without the use of a tool .....  | Not possible replacing fuse-link without the use of a tool.                            | P          |
| 14.6.4           | PTC thermistors comply with IEC 60730-1:2010  | No PTC thermistors   | N/A        |
|                  | PTC devices (>15 W) category V-1 or better  |  | N/A        |
| 14.6.5           | Circuit protectors have adequate breaking capacity and their position is correctly marked   |  | N/A        |
| <b>14.7</b>      | <b>Switches</b>   |  | <b>P</b>   |
| 14.7.1 a)        | Separate testing to IEC 61058-1 including:<br>- 10 000 operations<br>- Normal pollution suitability<br>- For CRT TV's, make and break speed independent of speed of actuation<br>- V-0 or compliance with G.1.1 | Comply with the requirements and test of IEC 61058-1 and according to G.1.1 of Annex G | P          |
| <b>14.7.1 b)</b> | <b>Tested in the apparatus</b>  |  | <b>N/A</b> |
|                  | Switch controlling > 0.2A with open contact voltage > 35 V (peak) / 24 V dc complying with 14.6.3, 14.6.4 and V-0 or G.1.1  |  | N/A        |
|                  | Switch controlling > 0.2A with open contact voltage < 35 V (peak) / 24 V dc complying with 14.6.3 and V-0 or G.1.1  |  | N/A        |
|                  | Switch controlling ≤ 0.2A with open contact voltage > 35 V (peak)/24 V dc complying with 14.6.4 and V-0 or G.1.1  |  | N/A        |
| 14.7.2           | Switch tested to 14.7.1 b) checked according to IEC 61058-1 clause 13.1 and 10 000 operation test   |  | N/A        |
| 14.7.3           | Switch tested to 14.6.1 b) compliant with IEC 61058-1 subclause 16.2.2 d) and m) not attaining excessive temperatures in use  |  | N/A        |
| 14.7.4           | Switch tested to 14.6.1 b) has adequate dielectric strength   |  | N/A        |
| 14.7.5           | Mains switch controlling mains socket outlets additional tests to IEC 61058-1   |  | N/A        |
| 14.8             | Safety interlocks according to 2.8 of IEC 60950-1   | No safety interlocks   | N/A        |
| 14.9             | Voltage setting device and the like are not likely to be changed accidentally   | No voltage setting devices   | N/A        |
| <b>14.10</b>     | <b>Motors</b>   |  | <b>N/A</b> |
| 14.10.1          | a) Endurance test on motors   | No motors  | N/A        |

| IEC 60065    |  |                 |            |
|--------------|--|-----------------|------------|
| Clause       | Requirement + Test   | Result - Remark | Verdict    |
|              | b) Motor start test  |                 | N/A        |
|              | Dielectric strength test   |                 | N/A        |
| 14.10.2      | Not adversely affected by oil or grease etc.   |                 | N/A        |
| 14.10.3      | Protection against moving parts  |                 | N/A        |
| 14.10.4      | Motors with phase-shifting capacitors, three-phase motors and series motors meet clause. B.8, B.9 and B.10 of IEC 60950-1, Annex B |                 | N/A        |
| <b>14.11</b> | <b>Batteries</b>   |                 | <b>N/A</b> |
| 14.11.1      | Comply with IEC 62133 if applicable  | No battery      | N/A        |
|              | Batteries mounted with no risk of accumulation of flammable gases  |                 | N/A        |
| 14.11.2      | No possibility of recharging user replaceable non-rechargeable batteries   |                 | N/A        |
| 14.11.3      | Recharging currents and times within manufacturers limits  |                 | N/A        |
|              | Lithium batteries discharge and reverse currents within the manufacturers limits   |                 | N/A        |
| 14.11.4      | Battery mould stress relief  |                 | N/A        |
| 14.11.5      | Battery drop test  |                 | N/A        |
| <b>14.12</b> | <b>Optocouplers</b>  |                 | <b>N/A</b> |
|              | Comply with constructional requirements of clause 8  | No optocoupler  | N/A        |
|              | External clearances and creepage comply with 13.1  |                 | N/A        |
|              | Compound completely filling the casing or internal clearances and creepage comply with 13.1 ..... :                                |                 | N/A        |
|              | a) Complies with 13.6 (jointed insulation) and N.3.2   |                 | N/A        |
|              | b) Complies with IEC 60747-5-5:2007  |                 | N/A        |
|              | c) Complies with 13.8  |                 | N/A        |
| <b>14.13</b> | <b>Surge suppression varistors</b>   |                 | <b>N/A</b> |
|              | Comply with IEC 61051-2  | No varistor     | N/A        |
|              | Not connected between mains and accessible parts except for earthed parts of permanently connected apparatus                       |                 | N/A        |
|              | GDT bridging basic insulation complies with electric strength and distance requirements  |                 | N/A        |
|              | Complies with the climatic, voltage, current pulse, fire hazard and thermal stress requirements of 14.13                           |                 | N/A        |
| <b>15</b>    | <b>TERMINALS</b>   |                 | <b>P</b>   |
| <b>15.1</b>  | <b>Plugs and sockets</b>   |                 | <b>P</b>   |

| IEC 60065   |   |  |         |
|-------------|---|--|---------|
| Clause      | Requirement + Test  | Result - Remark  | Verdict |
| 15.1.1      | Mains plug, appliance inlet, interconnection couplers and mains socket-outlet meet the appropriate standard | Comply with the relevant IEC standards (see appended table 14)           | P       |
|             | Overloading of plugs or appliance inlets prevented if the apparatus has mains socket outlets                | No socket outlets  | N/A     |
|             | Overloading of internal wiring prevented if the apparatus has mains socket outlets                          | No socket outlets  | N/A     |
| 15.1.2      | Design of connectors other than for mains power   | Design is different from mains power                                     | P       |
|             | Design of sockets with symbol of 5.3 b) design  | No such parts  | N/A     |
| 15.1.3      | Design of terminals and connectors used in output circuits of supply apparatus                              | No supply apparatus  | N/A     |
| <b>15.2</b> | <b>Provision for protective earthing</b>  |  | P       |
|             | Accessible conductive parts of Class I equipment reliably connected to earth terminal, within equipment     | Considered   | P       |
|             | Protective earth conductors correctly fixed and coloured  | Green / Yellow   | P       |
|             | Separate protective earth terminal near mains terminal and comply with 15.3                                 | Appliance coupler applied  | P       |
|             | Protective earth terminal resistant to corrosion  | No risk of corrosion. Metal combination acceptable according to Annex F. | P       |
|             | Earth resistance test: $< 0,1 \Omega$ at 25 A .....   | 0.02 $\Omega$  | P       |
| <b>15.3</b> | <b>Terminals for external flexible cords and for permanent connection to the mains supply</b>               |  | N/A     |
| 15.3.1      | Adequate terminals for connection of permanent wiring   | Appliance coupler applied  | N/A     |
| 15.3.2      | Reliable connection of non-detachable cords   |  | N/A     |
|             | Not soldered to conductors of a printed circuit board   |  | N/A     |
|             | Adequate clearances and creepage distances between connections should a wire break away                     |  | N/A     |
|             | Wire secured by additional means to the conductor   |  | N/A     |
| 15.3.3      | Screws and nuts clamping conductors have adequate threads: ISO 261, ISO 262 or similar                      |  | N/A     |
| 15.3.4      | Conductors adequately fixed (two independent fixings)   |  | N/A     |
| 15.3.5      | Terminals allow connection of conductors having appropriate cross-sectional area                            |  | N/A     |
| 15.3.6      | Terminals to 15.3.3 have sizes required by table 16   |  | N/A     |

| IEC 60065   |  |  |            |
|-------------|--|--|------------|
| Clause      | Requirement + Test   | Result - Remark  | Verdict    |
| 15.3.7      | Terminals clamp conductors between metal and have adequate pressure  |  | N/A        |
|             | Terminals designed to avoid conductor slipping out when tightened  |  | N/A        |
|             | Terminals adequately fixed when tightened or loosened (no loosening, wiring not stressed, distances not reduced)   |  | N/A        |
| 15.3.8      | Terminals carrying a current more than 0,2 A: contact pressure not transmitted by insulating material except ceramic   |  | N/A        |
| 15.3.9      | Termination of non-detachable cords: wires terminated near to each other   |  | N/A        |
|             | Terminals located and shielded: test with 8 mm strand  |  | N/A        |
| <b>15.4</b> | <b>Devices forming a part of the mains plug</b>  |  | <b>N/A</b> |
| 15.4.1      | No undue strain on mains socket-outlets  | Appliance coupler applied                                | N/A        |
| 15.4.2      | Device complies with standard for dimensions of mains plugs  |  | N/A        |
| 15.4.3      | Device has adequate mechanical strength (tests a,b,c)  |  | N/A        |
| <b>16</b>   | <b>EXTERNAL FLEXIBLE CORDS</b>   |  | <b>P</b>   |
| 16.1        | Mains cords sheathed type, complying with IEC 60227 for PVC or IEC 60245 for synthetic rubber cords .....  | Approved mains cord. (see appended table 14)             | P          |
|             | Non-detachable cords for Class I have green/yellow core for protective earth   | Detachable cords   | N/A        |
| 16.2        | Mains cords conductors have adequate cross-sectional area for rated current consumption of the equipment   | Considered Up to and including 3 A, 0.75 mm <sup>2</sup> | P          |
| 16.3        | Flexible cords not complying with 16.1, used for interconnections between separate units of equipment used in combination and carrying hazardous live voltages comply with a) and b) | Complying with 16.1                                      | N/A        |
| 16.4        | Flexible cords used for connection between equipment have adequate cross-sectional areas to avoid temperature rise under normal and fault conditions                                 |  | N/A        |
| 16.5        | Adequate strain relief on external flexible cords  | Detachable cords   | N/A        |
|             | Not possible to push cord back into equipment  |  | N/A        |
|             | Strain relief device unlikely to damage flexible cord  |  | N/A        |

| IEC 60065 |   |                             |         |
|-----------|---|-----------------------------|---------|
| Clause    | Requirement + Test  | Result - Remark             | Verdict |
|           | For mains cords of Class I equipment, hazardous live conductors become taut before earth conductor            |                             | N/A     |
| 16.6      | Apertures for external flexible cord: no risk of damage to the cord during assembly or movement in use        |                             | N/A     |
| 16.7      | Transportable apparatus have appliance inlet according to IEC 60320-1 or means of stowage to protect the cord | Not Transportable apparatus | N/A     |

| <b>17</b> | <b>ELECTRICAL CONNECTIONS AND MECHANICAL FIXINGS</b>   |   | <b>P</b> |
|-----------|--|---|----------|
| 17.1      | Table 20 torque test metal thread, 5 times ..... :   | Top enclosure fixing screws 2.85 mm, 0.5 Nm | P        |
|           | Table 20 torque test non-metallic thread, 10 times .. :  | Non-metallic not used                       | N/A      |
| 17.2      | Correct introduction into female threads in non-metallic material  | Non-metallic not used                       | N/A      |
| 17.3      | Cover fixing screws captive or no hazard when replaced by a screw whose length is 10 times its diameter                    | No captive screw                            | N/A      |
| 17.4      | No loosening of conductive parts carrying a current > 0,2 A  | Not permanently fixed                       | N/A      |
| 17.5      | Contact pressure not transmitted through insulating material other than ceramic for connections carrying a current > 0,2 A | No such parts                               | N/A      |
| 17.6      | Stranded conductors of flexible supply cords carrying a current > 0,2 A with screw terminals not consolidated by solder    | No connected to screw terminals             | N/A      |
| 17.7      | Cover fixing devices have adequate strength and their positioning is unambiguous   | No cover fixing devices                     | N/A      |
| 17.8      | Fixing means for detachable legs or stands provided  | No detachable legs or stands                | N/A      |
| 17.9      | Internal pluggable connections, affecting safety, unlikely to become disconnected  | No internal pluggable connections           | N/A      |

| <b>18</b> | <b>MECHANICAL STRENGTH OF PICTURE TUBES AND PROTECTION AGAINST THE EFFECTS OF IMPLOSION</b> |                  | <b>N/A</b> |
|-----------|---|------------------|------------|
| 18.1      | Comply with IEC 61965 or 18.2   | No picture tubes | N/A        |
| 18.2      | Non-intrinsically protected tubes   | No picture tubes | N/A        |

| <b>19</b> | <b>STABILITY AND MECHANICAL HAZARDS</b>  |                        | <b>P</b> |
|-----------|--|------------------------|----------|
| 19.1      | Apparatus > 7kg have adequate stability or is required to be fastened in place and provided with the warning of 5.5.2 f) ..... : | Rack mounted apparatus | N/A      |
| 19.2      | Test at 10° to the horizontal  |                        | N/A      |

| IEC 60065       |   |                               |            |
|-----------------|---|-------------------------------|------------|
| Clause          | Requirement + Test  | Result - Remark               | Verdict    |
| 19.3            | Vertical force test 100 N applied downwards   |                               | N/A        |
| 19.4            | Horizontal force test, 100 N or 13% of weight, applied horizontally to point of least stability                               |                               | N/A        |
| 19.5            | Edges or corners not hazardous  | No hazardous edges or corners | P          |
| <b>19.6</b>     | <b>Mechanical strength of glass</b>   |                               | <b>N/A</b> |
| 19.6.1          | Glass surfaces (exc.laminated) with an area exceeding 0,1 m <sup>2</sup> or major dimension > 450 mm, pass the test of 12.1.4 | No glass surfaces             | N/A        |
| 19.6.2          | Fragmentation test  |                               | N/A        |
| <b>19.7</b>     | <b>Wall or ceiling mounting means</b>   |                               | <b>N/A</b> |
| 19.7.1 - 19.7.3 | Not dislodged and remain mechanically intact after test according to 19.7.2 Test 1, Test 2 or Test 3..... :                   | Not wall or ceiling mounting  | N/A        |

|             |  |                             |          |
|-------------|--|-----------------------------|----------|
| <b>20</b>   | <b>RESISTANCE TO FIRE</b>  |                             | <b>P</b> |
| 20.1        | Start and spread of fire is prevented  |                             | P        |
| <b>20.2</b> | <b>Electrical components and mechanical parts</b>  |                             | <b>P</b> |
| 20.2.1      | a) Exemption for components contained in an enclosure of material V-0 to IEC 60695-11-10 with openings not exceeding 1 mm in width   | >1 mm                       | N/A      |
|             | b) Exemption for small components  | PCB (see appended table 14) | P        |
| 20.2.2      | Electrical components meet the requirements of Clause 14 or 20.2.5   | Complied with clause 20.2.5 | P        |
| 20.2.3      | Insulation of internal wiring working at voltages > 4 kV or leaving an internal fire enclosure, or located within the areas mentioned in Table 21, comply with G.2   | No high voltage             | N/A      |
| 20.2.4      | Material of printed circuit boards on which the available power exceeds 15 W at a voltage between 50 V and 400 V (peak) a.c. or d.c. meets V-1 or better to IEC 60695-11-10, unless used in a fire enclosure                       | (see appended table 14)     | P        |
|             | Material of printed circuit boards on which the available power exceeds 15 W at a voltage >400 V (peak) a.c. or d.c. meets V-0 to IEC 60695-11-10.   | Not exceeding 400 V         | N/A      |
| 20.2.5      | Components and parts not covered by 20.1.1, 20.1.2 and 20.1.3 (other than fire enclosures) mounted nearer to a potential ignition source than the distances in Table 21 comply with the relevant flammability category in Table 21 | Metal enclosure             | P        |
|             | Components and parts as above but shielded from a potential ignition source, with the barrier area in accordance with Table 21 and fig. 13   |                             | N/A      |

| IEC 60065      |   |  |            |
|----------------|---|--|------------|
| Clause         | Requirement + Test  | Result - Remark                        | Verdict    |
|                | Apparatus with voltages >4kV under normal operating conditions and distances to the enclosure exceed those specified Table 21, flammability classification HB40 or better is required for the enclosure |  | N/A        |
| <b>20.3</b>    | <b>Fire enclosure</b>   |  | <b>N/A</b> |
| 20.3.1         | Potential ignition sources with open circuit voltage > 4 kV (peak) a.c. or d.c. contained in a fire enclosure to V-1  | Not exceeding 4 kV (peak) a.c. or d.c. | N/A        |
| 20.3.2         | Internal fire enclosures with openings not exceeding 1 mm in width and with openings for wires completely filled  |  | N/A        |
| 20.3.3         | Requirements of 20.2.1 and 20.2.2 met by an internal fire enclosure   |  | N/A        |
| <b>ANNEX A</b> | <b>ADDITIONAL REQUIREMENTS FOR APPARATUS WITH PROTECTION AGAINST SPLASHING WATER</b>  |  | <b>P</b>   |
| <b>A.5</b>     | Marking and instructions  |  | <b>P</b>   |
| A.5.1          | A.5.2 i) Marked with at least IPX4 (IEC 60529)<br>5.5.2 a) does not apply   |  | <b>P</b>   |
| <b>A.10</b>    | <b>Insulation requirements</b>  |  | <b>N/A</b> |
| <b>A.10.3</b>  | <b>Splash and humidity treatment</b>  |  | <b>N/A</b> |
| A.10.3.1       | The enclosure provide adequate protection against splashing water   |  | N/A        |
| A.10.3.2       | Complies with 10.3,duration of the test is 168h   |  | N/A        |
| <b>ANNEX B</b> | <b>APPARATUS TO BE CONNECTED TO TELECOMMUNICATION THE TELECOMMUNICATION NETWORKS</b>  |  | <b>N/A</b> |
|                | Complies with IEC 62151 clause 1  |  | N/A        |
|                | Complies with IEC 62151 clause 2  |  | N/A        |
|                | Complies with IEC 62151 clause 3 modified   |  | N/A        |
|                | Complies with IEC 62151 clause 4 modified   |  | N/A        |
|                | Complies with IEC 62151 cause 5 modified  |  | N/A        |
|                | Complies with IEC 62151 clause 6  |  | N/A        |
|                | Complies with IEC 62151 clause 7  |  | N/A        |
|                | Complies with IEC 62151 annex A, B and C  |  | N/A        |
| <b>ANNEX L</b> | <b>ADDITIONAL REQUIREMENTS FOR ELECTRONIC FLASH APPARATUS FOR PHOTOGRAPHIC PURPOSES</b>   |  | <b>N/A</b> |
| <b>L.5</b>     | <b>Marking and instructions</b>   |  | <b>N/A</b> |

| IEC 60065   |   |                 |         |
|-------------|---|-----------------|---------|
| Clause      | Requirement + Test  | Result - Remark | Verdict |
| L.5.5.1     | Instructions for battery chargers and Supply apparatus indicating type or model number of flash apparatus with which it is to be used |                 | N/A     |
|             | Instructions for flash apparatus indicating type or model number of battery chargers or Supply apparatus with which it is to be used  |                 | N/A     |
| <b>L.7</b>  | <b>Heating under normal operating conditions</b>  |                 | N/A     |
| L.7.1.6     | Lithium batteries meet permissible temp rise in Table 3   |                 | N/A     |
| <b>L.9</b>  | <b>Electric shock hazard under normal operating conditions</b>  |                 | N/A     |
| L. 9.1.1.1  | Terminals for connection to synchroniser not hazardous live   |                 | N/A     |
| <b>L.14</b> | <b>Components</b>   |                 | N/A     |
| L.14.6.7    | Mains switch characteristics appropriate to its function under normal conditions  |                 | N/A     |

| IEC 60065                          |  |    |                    |                    |                      |                      |  |
|------------------------------------|--|----|--------------------|--------------------|----------------------|----------------------|--|
| Clause                             | Requirement + Test                     |    |                    |                    |                      | Result - Remark      | Verdict  |
| <b>7.1</b>                         | <b>TABLE: Heating Test</b>             |    |                    |                    |                      |                      | <b>P</b>   |
|                                    | <b>Ambient (°C)</b> .....              |    |                    |                    |                      | 20.0 – 21.2 °C       | —  |
|                                    | <b>Loudspeaker impedance (Ω)</b> ..... |    |                    |                    |                      | -                    | —  |
| Cond.                              | U <sub>n</sub> (V)                     | Hz | I <sub>n</sub> (A) | P <sub>n</sub> (W) | U <sub>out</sub> (V) | P <sub>out</sub> (W) | Operating Condition / Status<br><br>Operated with 1 kHz sine-wave signal input and connected to audio mixer apparatus and program distributor apparatus by manufacturer's. |
| 1                                  | 198                                    | 50 | 0.119              | 19.05              | -                    | -                    |  |
| 2                                  | 220                                    | 50 | 0.113              | 21.58              | -                    | -                    |  |
| 3                                  | 240                                    | 50 | 0.128              | 24.03              | -                    | -                    |  |
| 4                                  | 264                                    | 50 | 0.147              | 27.57              | -                    | -                    |  |
| 5                                  | 198                                    | 60 | 0.115              | 18.71              | -                    | -                    |  |
| 6                                  | 220                                    | 60 | 0.118              | 21.10              | -                    | -                    |  |
| 7                                  | 240                                    | 60 | 0.121              | 23.37              | -                    | -                    |  |
| 8                                  | 264                                    | 60 | 0.125              | 26.19              | -                    | -                    |  |
| 9                                  | 21.6 V d.c.                            | -  | 0.447              | 9.67               | -                    | -                    |  |
| 10                                 | 24 V d.c.                              | -  | 0.463              | 11.10              | -                    | -                    |  |
| 11                                 | 26.4 V d.c.                            | -  | 0.477              | 12.56              | -                    | -                    |  |
| Test condition No.                 |  |    |                    | No.1               | No.8                 | No.                  | —  |
| Thermocouple Locations             |  |    |                    | dT (K)             | dT (K)               | dT (K)               | dT (K) limit   |
| 1. Inlet body                      |  |    |                    | 4.1                | 6.1                  | -                    | 50   |
| 2. Primary wire                    |  |    |                    | 7.9                | 10.7                 | -                    | 45   |
| 3. Y-CAP (near primary wire)       |  |    |                    | 8.3                | 10.7                 | -                    | 70   |
| 4. AC Input PCB near LIVE          |  |    |                    | 3.5                | 5.2                  | -                    | 70   |
| 5. Transformer body                |  |    |                    | 14.4               | 19.9                 | -                    | 70   |
| 6. AC connector                    |  |    |                    | 13.0               | 15.9                 | -                    | 50   |
| 7. Fuse                            |  |    |                    | 13.8               | 18.9                 | -                    | 105  |
| 8. HS1                             |  |    |                    | 13.6               | 18.6                 | -                    | 105  |
| 9. Elec-cap (C1515)                |  |    |                    | 31.1               | 33.2                 | -                    | 50   |
| 10. Power board PCB near CN916     |  |    |                    | 11.2               | 15.1                 | -                    | 70   |
| 11. Input ch board PCB near R206   |  |    |                    | 6.3                | 8.1                  | -                    | 70   |
| 12. Input ch board PCB near R592   |  |    |                    | 10.1               | 13.1                 | -                    | 70   |
| 13. DC Input near PCB DC connector |  |    |                    | 13.5               | 16.5                 | -                    | 70   |
| 14. Output board PCB near R1509    |  |    |                    | 5.0                | 8.9                  | -                    | 105  |
| 15. Output board2 PCB near C734    |  |    |                    | 6.0                | 9.1                  | -                    | 105  |
| 16. Internal enclosure near HS2    |  |    |                    | 9.5                | 16.0                 | -                    | -  |

| IEC 60065                  |                    |                 |   |         |
|----------------------------|--------------------|-----------------|---|---------|
| Clause                     | Requirement + Test | Result - Remark |   | Verdict |
| 17. AC Switch              | 5.9                | 7.9             | - | 50      |
| 18. Knob                   | 5.4                | 7.2             | - | 50      |
| 19. External enclosure     | 13.4               | 24.9            | - | 40      |
| 20. Ambient                | 0.0                | 0.0             | - | -       |
| Supplementary information: |                    |                 |   |         |

| TABLE: Heating test, resistance method |                    |                    |        |             |                  | P |
|--|--------------------|--------------------|--------|-------------|------------------|---|
| Test condition No. .... :              |                    |                    |        |             | 1, 8             | — |
| Ambient, t <sub>1</sub> (°C)..... :    |                    |                    |        |             | 21.2             | — |
| Ambient, t <sub>2</sub> (°C)..... :    |                    |                    |        |             | 20.0             | — |
| Temperature rise of winding            | R <sub>1</sub> (Ω) | R <sub>2</sub> (Ω) | ΔT (K) | Max. dT (K) | Insulation class |   |
| Transformer winding (198 V~)           | 72.0               | 78.6               | 20.75  | 70          | A                |   |
| Transformer winding (264 V~)           | 72.0               | 81.1               | 28.16  | 70          | A                |   |
| Supplementary information:             |                    |                    |        |             |                  |   |

| 7.2                   | TABLE: Heat Resistance of Insulating Materials |                           |                      | N/A |
|-----------------------|--|---------------------------|----------------------|-----|
| Temperature T of part | T - normal conditions (°C)                     | T - fault conditions (°C) | Min T softening (°C) |     |
| -                     | -  | -                         | -                    |     |

| IEC 60065   |                                   |                            |                                |
|---|-----------------------------------|----------------------------|--------------------------------|
| Clause  | Requirement + Test                | Result - Remark            | Verdict                        |
| <b>10.4</b>   | <b>TABLE: Dielectric Strength</b> |                            | <b>P</b>                       |
| Test voltage applied between:                                     |                                   | Test potential applied (V) | Breakdown / flashover (Yes/No) |
| Primary to Ground   |                                   | 1 500                      | No                             |
| Mains poles (fuse was removed)                                    |                                   | 1 500                      | No                             |
| Primary to Secondary  |                                   | 3 000                      | No                             |
| Main transformer Primary to core                                  |                                   | 1 500                      | No                             |
| Main transformer Secondary to core                                |                                   | 1 500                      | No                             |
| insulation tape (1 layer) in main transformer                     |                                   | 3 000                      | No                             |
| Primary to Ground after humidity test                             |                                   | 1 500                      | No                             |
| Mains poles (fuse was removed) after humidity test                |                                   | 1 500                      | No                             |
| Primary to Secondary after humidity test                          |                                   | 3 000                      | No                             |
| Main transformer Primary to core after humidity test              |                                   | 1 500                      | No                             |
| Main transformer Secondary to core after humidity test            |                                   | 1 500                      | No                             |
| insulation tape (1 layer) in main transformer after humidity test |                                   | 3 000                      | No                             |
| Supplementary information:  |                                   |                            |                                |

| <b>10.4</b>  | <b>TABLE: Insulation Resistance Measurements</b> |        | <b>P</b>        |
|--|--|--------|-----------------|
| Insulation resistance R between:                   |  | R (MΩ) | Required R (MΩ) |
| Primary to Ground                                  |  | > 100  | 2 MΩ            |
| Mains poles (fuse was removed)                     |  | > 100  | 2 MΩ            |
| Primary to Secondary                               |  | > 100  | 4 MΩ            |
| Primary to Ground after humidity test              |  | > 100  | 2 MΩ            |
| Mains poles (fuse was removed) after humidity test |  | > 100  | 2 MΩ            |
| Primary to Secondary after humidity test           |  | > 100  | 4 MΩ            |
| Supplementary information:                         |  |        |                 |

| IEC 60065  |                                |         |                    |   |
|--|--------------------------------|---------|--------------------|---|
| Clause   | Requirement + Test             |         | Result - Remark    | Verdict   |
| <b>11</b>  | <b>TABLE: Fault Conditions</b> |         |                    | <b>P</b>  |
| No.  | Component                      | Fault   | dT (K) / Component | Test conditions, test duration, test result   |
| 1  | Opening                        | block   | -                  | Final Input: 0.1 A, Duration: 11 h 9 min.<br>No parts exceeding temperature limits.<br>NH. NCD. NB.   |
| 2  | Main transformer output        | S/C     | -                  | Final Input: 0 A, Duration: 9 min.<br>Transformer coil : 86.4 °C<br>Transformer core : 64.0 °C<br>Ambient :21.0<br>No parts exceeding temperature limits.<br>NH. NCD. NB. |
| 3  | 24 Vdc input                   | Reverse | -                  | Final Input: 0 A, Duration: 1 s.<br>Fuse open, NB, NH   |
| 4  | D01                            | S/C     | -                  | Final Input: 0 A, Duration: 1 s.<br>Fuse open, NH. NB   |
| 5  | D02                            | S/C     | -                  | Final Input: 0 A, Duration: 1 s.<br>Fuse open, NH. NB   |
| 6  | IC02 (O-I)                     | S/C     | -                  | Final Input: 0.1 A, Duration: 10 min.<br>NH. NCD. NB.   |
| 7  | IC03 (O-I)                     | S/C     | -                  | Final Input: 0.1 A, Duration: 10 min.<br>NH. NCD. NB.   |
| 8  | IC02 (O-G)                     | S/C     | -                  | Final Input: 0.1 A, Duration: 10 min.<br>NH. NCD. NB.   |
| 9  | IC03 (O-G)                     | S/C     | -                  | Final Input: 0.1 A, Duration: 10 min.<br>NH. NCD. NB.   |
| 10   | D05                            | S/C     | -                  | Final Input: 0.1 A, Duration: 10 min.<br>NH. NCD. NB.   |
| 11   | D07                            | S/C     | -                  | Final Input: 0.1 A, Duration: 10 min.<br>NH. NCD. NB.   |
| <p>Supplementary information:</p> <p>The following electric strength test was conducted after above tests</p> <ul style="list-style-type: none"> <li>- Primary-Secondary : 3 000 V</li> <li>- Primary-earth : 1 500 V</li> </ul> |                                |         |                    |   |

| IEC 60065   |  |                       |                |                      |               |          |
|---|--|-----------------------|----------------|----------------------|---------------|----------|
| Clause  | Requirement + Test   |                       |                | Result - Remark      |               | Verdict  |
| <b>13</b>   | <b>TABLE: Clearance And Creepage Distance Measurements</b> |                       |                |                      |               | <b>P</b> |
| Rated supply voltage:   | 220-240  | Pollution degree .. : | 2              | Material Group ..... | IIIb          |          |
| 2 N force on internal parts applied:                              |  |                       | Yes            |                      |               | P        |
| 30 N force on outside of conductive enclosure applied:            |  |                       | Yes            |                      |               | P        |
| clearance and creepage distance at/of:                            | Working voltage (V)  |                       | Clearance (mm) |                      | Creepage (mm) |          |
|   | U peak   | U r.m.s.              | Required       | Measured             | required      | Measured |
| Primary to Chassis  | 240  | 357                   | 2.0            | 7.6                  | 2.0           | 7.6      |
| Primary to Secondary  | 240  | 357                   | 4.0            | 7.6                  | 4.0           | 7.6      |
| Primary to Secondary (AC Switch – Primary pole to Secondary Pole) | 240  | 357                   | 4.0            | 5.2                  | 4.0           | 5.2      |
| Supplementary information:  |  |                       |                |                      |               |          |

| <b>14</b>         | <b>TABLE: Critical components information</b> |                 |   |   |                                     | <b>P</b> |
|-------------------|---|-----------------|---|---|-------------------------------------|----------|
| Object / part No. | Manufacturer/ trademark                       | Type / model    | Technical data                                  | Standard                                      | Mark(s) of conformity <sup>1)</sup> |          |
| Plug              | KOREA KDK                                     | KKP-4819R       | 250 V~, 16 A                                    | IEC 60884-1:2002/AMD2:2003                    | CB (SE-78886)                       |          |
| Flexible cable    | KOREA KDK                                     | HO5VV-F         | 3 x 0.75 mm <sup>2</sup>                        | EN 50525-2-11:2011                            | VDE (101928)                        |          |
| Coupler           | KOREA KDK                                     | KKS-16A         | 250 V~, 10 A                                    | IEC 60320-1:2001/AMD1:2007                    | CB (SE-59708)                       |          |
| AC connector      | Hae Chang Inc                                 | HBH3960-03      | -   | EN 61010-1                                    | Tested in equipment                 |          |
| Bleeder Resistor  | COWELL Fashion Co., Ltd.                      | MSR37           | LIMITING VOLTAGE : 3600<br>LIMITING POWER : 0.5 | EN 60065:2014                                 | VDE (138372)                        |          |
| Enclosure         | Interchangeable                               | Interchangeable | Min. 1.0 mm<br>Min. V-0                         | IEC 60065                                     | UL or equivalent                    |          |
| AC inlet          | Dong IL Technology Ltd.                       | DAC-12          | 10 A, 250 V~                                    | IEC 60320-1:2001                              | CB (DE1 30668)                      |          |
| Y-CAP             | Murata Mfg. Co., Ltd.                         | KY              | 250 V~, 1000 pF                                 | IEC 60384-14:2013                             | VDE (40006273)                      |          |
| Fuse              | Littelfuse Inc.                               | 218             | 250 mA, 250 V~<br>1.0 A, 250 V~                 | IEC 60127-1:2006/AMD2:2015<br>IEC60127-2:2014 | VDE (40013496)                      |          |

| IEC 60065   |   |                     |                          |                                    |                        |
|---|---|---------------------|--------------------------|------------------------------------|------------------------|
| Clause  | Requirement + Test  |                     |                          | Result - Remark                    | Verdict                |
| AC Switch   | Zhang jia gang<br>hua feng elect<br>connector &<br>component<br>Co.,Ltd | HF-606              | 6 A, 250~                | IEC 61058-<br>1:1990<br>/AMD2:1994 | CB<br>(NO 19513)       |
| PCB<br>(Power board,<br>DC Input)   | HYUNDAE PCB<br>CO LTD   | HD1                 | V-0, 105 °C              | UL 796                             | UL (E204695)           |
| Alt)  | Interchangeable   | Interchangeabl<br>e | Min. V-0,<br>Min, 105 °C | -                                  | UL or<br>equivalent    |
| PCB<br>(Output board,<br>Output board2)   | SAM MI<br>INDUSTRIAL<br>CO., LTD  | 5                   | V-0, 130 °C              | UL 796                             | UL (E95926)            |
| Alt)  | Interchangeable   | Interchangeabl<br>e | Min. V-0,<br>Min, 105 °C | -                                  | UL or<br>equivalent    |
| PCB<br>(Input ch board)   | HYUN JOO<br>CIRCUIT CO LTD  | 1                   | V-0, 105 °C              | UL 796                             | UL (E178024)           |
| Alt)  | Interchangeable   | Interchangeabl<br>e | Min. V-0,<br>Min, 105 °C | -                                  | UL or<br>equivalent    |
| PCB (AC Input)  | HALLA<br>ELECTRONICS<br>CO LTD  | D                   | V-0, 105 °C              | UL 796                             | UL (E217542)           |
| Alt)  | Interchangeable   | Interchangeabl<br>e | Min. V-0,<br>Min, 105 °C | -                                  | UL or<br>equivalent    |
| Transformer<br>(T1)   | IMC   | 1103941             | Class B                  | IEC 60065                          | Tested in<br>equipment |
| -Bobbin   | E I DUPONT DE<br>NEMOURS & CO<br>INC                                    | FR530               | V-0, 155 °C              | UL 746A                            | UL (E41938)            |
| -Primary wire<br>-Secondary wire  | Feng ching metal<br>corp  | 2-UEW               | 130 °C                   | UL 1446                            | UL (E172395)           |
| -Insulation tape  | Jingjiang Yahua<br>Pressure<br>Sensitive Glue Co<br>Ltd                 | CT                  | 130 °C                   | UL 510A                            | UL (E165111)           |
| -Thermal fuse of<br>transformer   | UCHIHASHI<br>ESTEC CO LTD   | T5F                 | 250 V~, 2 A,<br>136 °C   | UL 60691                           | UL (E73591)            |
| Supplementary information:<br>1) Provided evidence ensures the agreed level of compliance. See OD-CB2039. |   |                     |                          |                                    |                        |

| IEC 60065  |  |  |         |
|--|--|--|---------|
| Clause   | Requirement + Test   | Result - Remark                          | Verdict |
| <b>ATTACHMENT TO TEST REPORT</b>   |  |  |         |
| <b>IEC 60065:2001 (SEVENTH EDITION) + A1:2005 + A2:2010</b>  |  |  |         |
| <b>(REPUBLIC OF KOREA) NATIONAL DIFFERENCES</b>  |  |  |         |
| (AUDIO, VIDEO AND SIMILAR ELECTRONIC APPARATUS - SAFETY REQUIREMENTS)  |  |  |         |
| <b>Differences according to</b> .....: KC60065(2015-09)  |  |  |         |
| <b>Attachment Form No.</b> .....: KR_ND_IEC60065K  |  |  |         |
| <b>Attachment Originator</b> .....: KTR  |  |  |         |
| <b>Master Attachment</b> .....: 2018-06  |  |  |         |
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|  | <b>National Differences</b>  |  | P       |
| <b>5</b>   | <b>Marking and instructions</b>  |  | P       |
| 5.1, h)<br>(replacement)   | h) For apparatus intended for connection to an a.c. mains supply,<br>- rated power consumption<br>(all apparatus except AC/DC adapter)<br>or<br>- rated current or power consumption<br>(only for AC/DC adapter) | 220-240 V~, 50/60 Hz, 25 W,<br>24 V d.c. | P       |
| <b>15</b>  | <b>Terminals</b>   |  | P       |
| 15.1.1<br>(addition)   | Plugs for the connection of the apparatus to the supply main shall comply with the Korean requirement(KS C 8305).  | Complied                                 | P       |
|  | <b>Special national conditions (if any)</b>  |  | P       |
| Voltage  | The marking of rated voltage or rated voltage range, for appliances intended to be connected to the supply mains, shall include 110 V, 220 V or 380 V.   | 220-240 V~                               | P       |
| Frequency  | Only appliances having supply frequency of 60Hz or a frequency range including 60Hz are accepted.  | 50/60 Hz                                 | P       |
| Instruction  | Instruction manuals and appliance marking related safety, including nameplate shall be in Korean   | Korean                                   | P       |

**Report Number:** 50209939 001  
**Model:** IM-LM-6414, IM-LM-6414-EP

External view1



External view2



**Report Number:** 50209939 001  
**Model:** IM-LM-6414, IM-LM-6414-EP

Front view

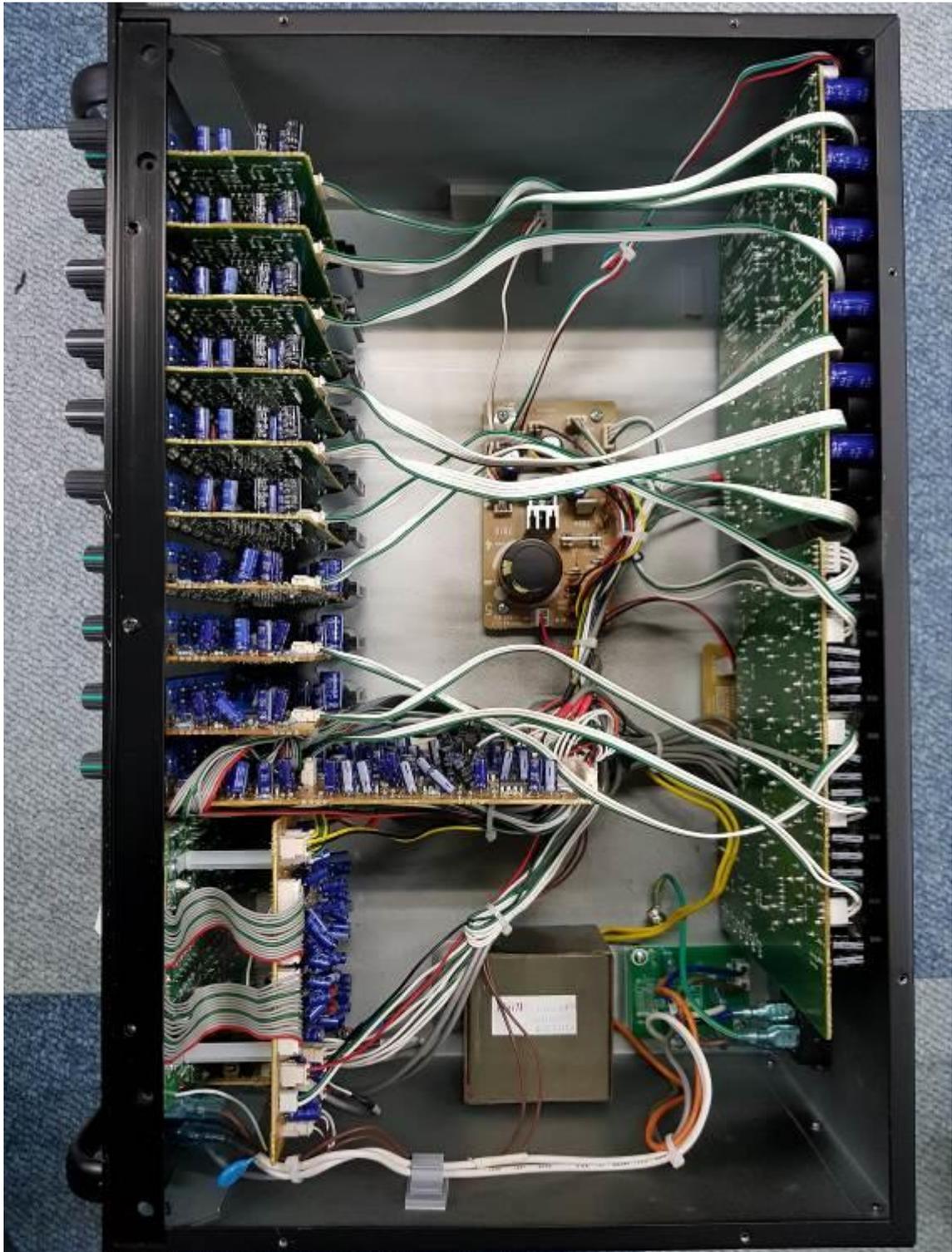


Rear view



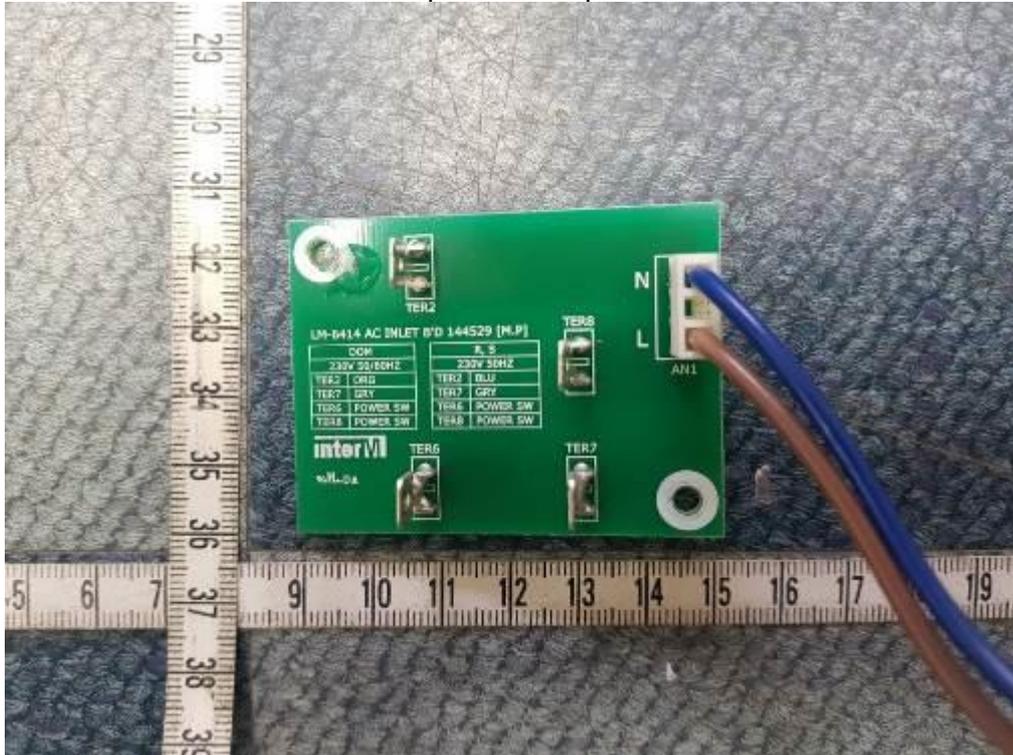
**Report Number:** 50209939 001  
**Model:** IM-LM-6414, IM-LM-6414-EP

Internal view

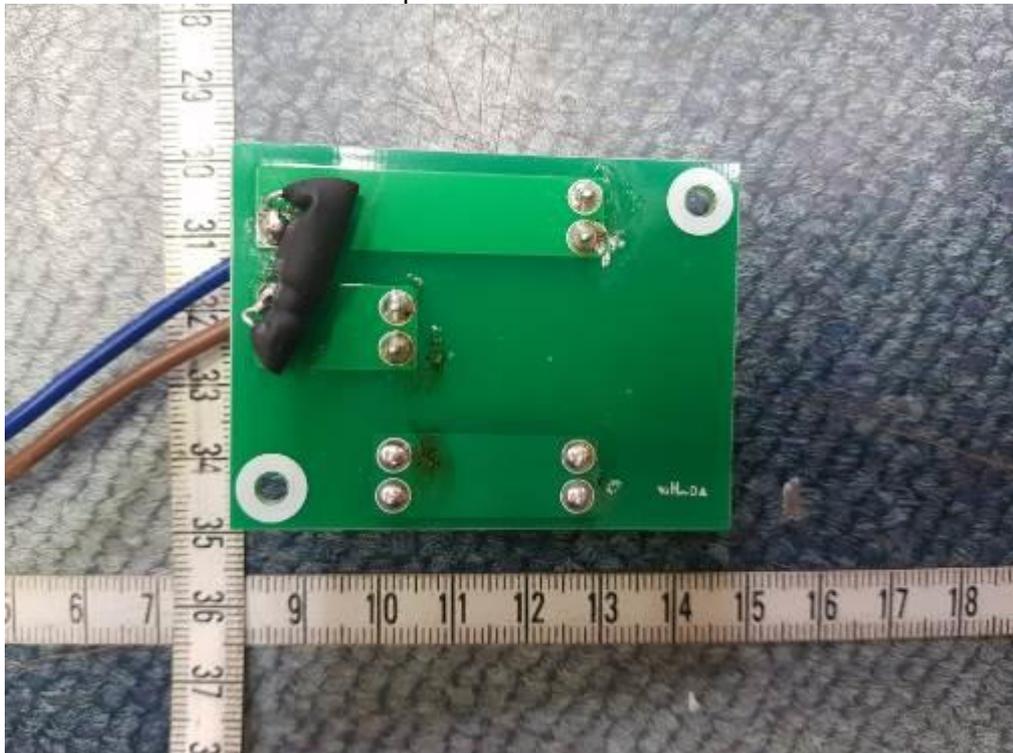


**Report Number:** 50209939 001  
**Model:** IM-LM-6414, IM-LM-6414-EP

AC input board top view



AC input board bottom view



**Report Number:** 50209939 001  
**Model:** IM-LM-6414, IM-LM-6414-EP

Power board top view



Power board bottom view

